# Preventive Archaeology Should not be Reified! The Case of the Swiss Motorway Archaeology<sup>1</sup>

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#### Abstract

This paper proposes an analysis of the historic development of preventive archaeology in Switzerland since the end of the 50's. The particularity of preventive research in this country is its early development under the impulse of a motorway construction programme that has been in progress for 60 years. Moreover, the organisation of preventive archaeology is fragmented because of the political framework of the country, which is a federal state. Thus, Swiss motorway archaeology is an interesting case study for the analysis of the development of preventive archaeology.

In reality, it appears that motorway archaeological programmes have been undertaken under diversified frameworks of scientific research and through different contexts and strategies over time in each canton. This means that the practice of preventive archaeology has been carried out based on different perceptions of what constitutes heritage research, which are applied in different ways, rather than being an ideal organisational model which we tend to reify. Thus, it appears possible to reorganise the implementation of the principles of preventive archaeology, in a way to tackle the crisis.

Keywords: Preventive archaeology, Switzerland, Motorway, History of archaeology.

#### Résumé

Cet article propose une analyse historique du développement de l'archéologie préventive en Suisse depuis la fin des années 1950. La particularité de la recherche préventive dans ce pays est son développement précoce sous l'impulsion d'un vaste programme de constructions autoroutières toujours en cours depuis 60 ans. De plus, la recherche préventive y est fragmentée en raison du cadre politique fédéral du pays. De ce

<sup>1</sup> This paper presents the research realised by the author at the University of Neuchâtel in Switzerland in the frame of an interdisciplinary research project of the Swiss National Science Foundation (SNF) entitled: "History of Motorway Archaeology in Switzerland (1958-2010)". This project is led by Marc-Antoine Kaeser (UniNe, Institute of archaeology) and Laurent Tissot (UniNe, Institute of history) and coordinated by Géraldine Delley (UniNe, Institute of archaeology).

fait, l'archéologie autoroutière en Suisse constitue un intéressant cas d'étude historique et comparatif pour l'archéologie préventive.

En réalité, il apparait que les fouilles archéologiques autoroutières ont été le cadre d'une importante diversité de recherches scientifiques menées dans des contextes et selon des stratégies très différentes au fil du temps et dans chacun des cantons. Cela démontre que la pratique de l'archéologie préventive constitue en réalité des principes de recherche patrimoniaux pouvant être appliqués de manières très différentes et n'est pas un modèle d'organisation idéal que nous aurions tendance à réifier. De ce fait, il s'avère possible de réorganiser la mise en œuvre des principes de l'archéologie préventive afin d'affronter la crise.

### From a crisis to a chrysalis

As in many other countries of Europe, the economic crisis affects the proper functioning of preventive archaeology in Switzerland. The resulting negative effects on the research are the consequences of the decrease in investments in the construction sector and of the public austerity measures. However, because of its organisation which is principally State planned, preventive archaeology in Switzerland is mostly prejudiced by public sector initiatives taken to reduce costs at the state level.

In this situation, Swiss archaeologists have to develop strategies to maintain or preserve preventive archaeology. However, at the same time, the establishment of preventive archaeology cannot be considered as fully set-up everywhere in the country. In this context, it is important to ask ourselves what is meant by preventive archaeology, how it is actually practiced, and what needs to be achieved or preserved.

In fact, as will be demonstrated below, the history of Swiss motorway archaeology shows that preventive archaeology can be practised in very different ways. From this standpoint, preventive archaeology appears to be a set of guiding principles connected with heritage management rather than a definitive model of the research organisation which we tend to idealize and reify. Thus, the historic analysis of the Swiss motorway archaeology provides us an opportunity to reconsider the functioning of preventive archaeology in practice while we are looking for new strategies in the context of the current European economic crisis.

# A decentralised organisation through a long term construction programme

The particularity of preventive archaeology in Switzerland is its decentralised organisation. Despite its modest size, comparable to the Netherlands or Moldavia, Switzerland is a Federal State divided into 26 cantons and half-cantons which are all sovereign states (Fig. 1). For example, each canton has its own laws, its own police force, its own educational system and its own economy.

As with all cultural affairs, heritage management and preventive archaeology are the responsibilities of the cantons and the federal authorities are only allowed to provide support (see Kaenel 2002; 2007; 2013; Niffeler 2002; Wolf 2010)<sup>2</sup>.

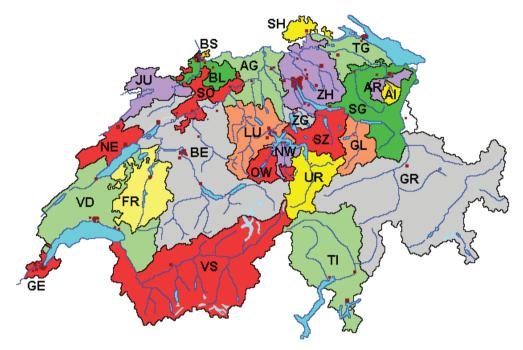


Fig. 1. Map of the Swiss cantons (Source: swisstopo).

The cantons are free to organise preventive archaeology as they think best, in accordance with the Malta Convention<sup>3</sup>. Thus, there are 26 different organisations responsible for preventive archaeology, as though they were from 26 different countries, similar to a diminutive "European Union" in the centre of Europe.

The other particularity of preventive archaeology in Switzerland is its early development under the impulse of the long term motorway network construction programme. Still in progress, this federal construction programme was initiated in 1959 after its acceptance by referendum (Piveteau 1964; Burnier 1985). Thanks to the negotiations led by several Swiss archaeologists<sup>4</sup>, the federal authorities exceptionally

<sup>2</sup> According to article 724 of the Swiss Civil Code (1907 – RS 210) and the article 78 of the Federal Constitution (1999 – RS 101).

<sup>3</sup> The European Convention on the Protection of the Archaeological Heritage or « Malta Convention » was ratified by the Swiss Confederation in 1996.

<sup>4</sup> In particular thanks to Professors Hans-Georg Bandi (Bern), Marc-Rodolphe Sauter (Geneva), Rudolph Laur-Belart (Basel) and Emil Vogt (Zurich), with the help of Felix Endtner, lawyer and deputy director of the Federal Office of Roads.

accepted to finance in the motorways construction budget, the excavations of the archaeological remains which were menaced by the national motorways network construction programme (Bandi & Niffeler 2007: 41-42; Kaenel 2002: 35-37; Leesch, et al., 1998: 28-29; Leesch, et al., 2000; Niffeler 2002: 70). This decision was taken through a decree of the Federal Council on March 13, 1961 (Fig. 2). Consequently, federal financial means, which are more important than those of the cantons, have been deployed for preventive archaeology.

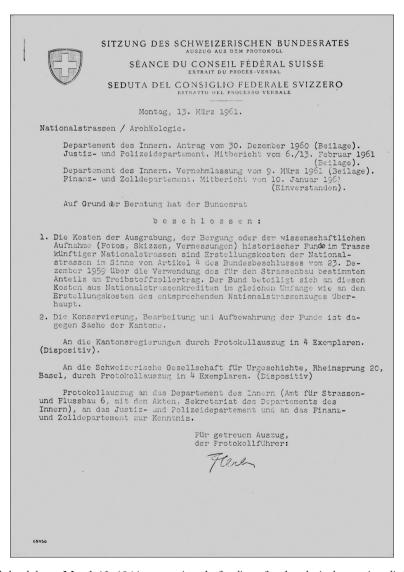


Fig. 2. Federal decree March 13, 1961, concerning the funding of archaeological operations linked to the construction of the national motorway network.

## The heroic times of motorway archaeology

The original research was carried out whilst archaeology in Switzerland was only performed with few financial means by academics and museum curators, supported by the work of numerous amateurs. These were associated in networks under the Swiss Society of Prehistory (SSP)<sup>5</sup> and under local societies attached to a museum or a site.

For the purpose of developing preventive research during the construction of the national motorway, the SSP set up a Central Service for Archaeology<sup>6</sup> led by a special commission<sup>7</sup> (Kaenel 2002: 36; Leesch, et al., 1998: 28-29; Weidmann 1998: 80-81). The SSP's Central Service for Archaeology was charged with engaging with and motivating the cantonal managers responsible for Heritage. Indeed, despite the federal financial support, preventive excavations have always depended on local initiatives from the cantonal managers responsible for Heritage.

However, these cantonal persons or administrative departments designated as being in charge of Heritage management were often not trained as archaeologists. Moreover, they were not always able, motivated or ambitious enough to organise such large scale preventive excavations, which had to be undertaken during the construction of the motorways network. As a consequence, several of the first highway sections were not considered for archaeological research (see: Weidmann 1998: 82; Niffeler 1998: 19-20). During the first decade of construction, only some 30 archaeological excavations were undertaken, whilst 650 km of motorways had been opened, which represent one third of the initially planned national motorway network (Leesch, et al., 1998: 29).

However, the number and scale of these excavations was relatively important considering the technical and personnel resources available for the archaeological research at that time. Moreover, during the construction of the motorways, the Central Service for Archaeology was successful in initiating the archaeological research, as planned.

# The development of the cantonal archaeologies

During the 70's, both in society and in cantonal politics, we can observe a growing awareness of the impact of the new construction projects both on heritage as well as

<sup>5</sup> Founded in 1907 and based in Basel, the Swiss Society of Prehistoy (SSP) was called: « Schweizerische Gesellschaft für Urgeschichte / Societé Suisse de Préhistoire / Società Svizzera di Preistoria (SGU/SSP) » and became in 1966 the « Schweizerische Gesellschaft für Ur- und Frühgeschichte / Société Suisse de Préhistoire et d'Archéologie / Società Svizzera di Preistoria e d'Archeologia (SGUF/SSPA) » and in 2006 « Archäologie Schweiz/Archéologie Suisse/Archeologia Svizzera (AS) ».

<sup>6 «</sup> Archäologische Zentralstelle für den Nationalstrassenbau / Service archéologique pour la construction des routes nationales (AZN/SACRN) ».

<sup>7 «</sup> Kommission für den Nationalstrassenbau (NSK) ».

on the natural environment. In this context, most of the cantons created their own cantonal archaeological service to manage the archaeological heritage of their territory (Niffeler 2002: 72-73; Weidmann 1998: 81).

Thus, structural changes appeared for the organisation of preventive archaeology in Switzerland. The cantonal archaeological services took control of archaeological remains, which are the objects of scientific study. As a consequence, academics, museums and archaeological societies rapidly lost their dominant position in archaeological research. The activities of the Archaeological Central Service for motorway construction were reduced to a liaison office between the different cantonal services and the Federal Office of Roads and were directed by a supervisory commission from the SSP<sup>8</sup>. Since that time, preventive operations during highway constructions was organised and carried out by each canton without the coordination of the organs of the SSP. As a result, motorway preventive archaeology lost homogeneity. In fact, the duties, the administrative status and the importance of the cantonal archaeological services are different in each canton. Thus, based on the intentions and the initiatives of all these local research structures, different research strategies were implemented on the motorway worksites.

Important methodological changes also occurred with the introduction of new methods of prospecting. Previously, archaeologists used documentary analysis and field walking to discover the archaeological sites on the motorway worksites. During the 70's, archaeological surveys realised by test-pits was gradually elaborated to detect the archaeological sites which were not discernible from the surface (Boisaubert, et al., 2008: 22-31; Boisaubert, et al., 1992: 36-40; Niffeler 1998: 20; Weidmann & May Castella 1994: 19-23). By trial and error, this method was refined and added to the previous procedures. As a result, Swiss archaeologists progressively developed the archaeological assessment methods and procedures which are central to preventive archaeology. It should be noted that this procedure was in fact elaborated separately in each canton. Thus, archaeological prospection on motorway construction sites was undertaken using different approaches depending on local interests, the environment, the means available and the nature of the remains.

As a result of cantonal initiatives, we observe an important development in the methods and procedures deployed on motorway excavations during the 70's. However, because of the integration of preventive archaeology in the cantonal administrations, this development resulted in different methods for undertaking research in the country.

<sup>8 «</sup> Aufsichtskommission der Archäologische Zentralstelle für den Nationalstrassenbau ».

## New possibilities for ambitious research programmes

The situation for motorway archaeology changed again during the 80's when a new funding system in the civil engineering sector was introduced to improve the flexibility regarding the methods of payment, thus reducing the budgetary constraints. At the same time, the recently established environmental impact studies, allowed preventive archaeology to be positioned in a better light. Furthermore, the deadlines for motorway construction were rescheduled and extended due to a lack of federal funds, providing longer timelines for archaeological research (see: Leesch, et al., 1998: 29; Bruckner & Sulzer 1981: 6). Thus, the financial contributions and delays which archaeologists could request from the Federal Office of Roads were significantly increased.

In this context, some of the cantonal archaeological services chose to undertake more ambitious research programmes. Examples included systematic surveys by testpits and meticulous excavations (see Figs. 3 and 4).



Fig. 3. The excavations of the site of Hauterive/Champréveyres (NE) in 1983, during the construction of the Motorway A5 (Photography: Éric Gentil, Laténium).

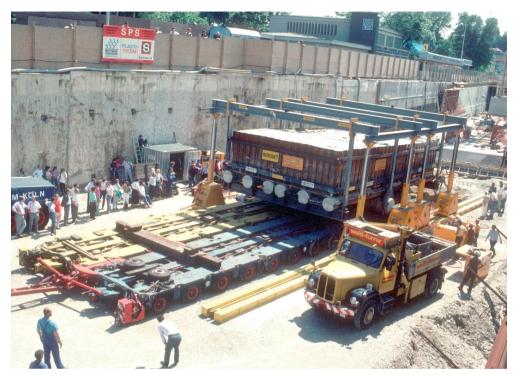


Fig. 4: Motorway excavations have been the framework of large scale preventive operations. Here the removal of a part of the archaeological site of Monruz (NE) during the construction of the Motorway A5 in 1991 (Photography: Béat Arnold, Laténium).

At the same time, we also observe an increase in the number of palaeoenvironmental studies. As a consequence, the mass of data collected during the motorway excavations increased substantially. Prior to that time, archaeologists often requested financial support from the Swiss National Science Foundation to analyse the data collected (Delley 2013: 37). In order to cope with the increase in the data collected during motorway archaeology, important federal means devoted to the constructions was now also requested to study and analyse the data collected from the sites investigated, leading up to the production of the excavation reports. Thus, some of the archaeological research programmes initiated during the motorways construction projects became large-scale long-term research projects, able to employ hundreds of scientific professionals.

However, an important problem to resolve in the organisation of such research programmes was the lack of professional archaeologists in Switzerland. As a consequence, the cantonal archaeological services which wished to undertake more ambitious research programmes chose different strategies: some employed foreign archaeologists (Weidmann 1998: 82), whilst others decided to mandate private companies

to undertake preventive excavations on their territory (see: Weidmann & May Castella 1994: 23).

At that time, Swiss Motorway Archaeology became the enormous archaeological undertaking which lives in memory of numerous European archaeologists. Nevertheless, some cantonal managers of archaeological heritage did not use this opportunity to undertake more ambitious research programmes. Moreover, in several cantons, especially in the east of Switzerland, the construction of most of the motorway sections had already been completed. Thus, in parallel to the increase in the financial means available for archaeology during motorway constructions, we can observe that the importance and the scale of the research undertaken were variable as between the cantons.

### Motorway archaeology and heritage management

During the 90's, the cantons reinforced the procedures for the application of preventive archaeology on their territories. In fact, the ratification of the Valetta Convention by the Swiss Confederation led the cantons to readjust their legal texts concerning Heritage causing a redefinition of the role of the cantonal archaeological services.

Thus, preventive archaeology became something more than an opportunist and providential strategy for scientific research: it was now expected to record all scientific data about the past for eventual future studies in the context of cultural heritage. In the motorway archaeological programmes, these new approaches were developed in a framework of a systematic research strategy involving the collection of a maximum amount of detailed data (see: Kaeser 1994) and a generalized use of palaeoenvironmental data.

As a consequence, the volume of data collected was further increased. These new approaches also changed the definition of the archaeological site, which became the entire motorway section. Thus, to integrate all different remains in a research thematic, a revised scientific discourse was gradually establish concerning the territory and its evolution through its anthropic occupation. This new strategy was finally deployed in only two of the last few cantons still concerned by motorway construction during the 90's. Although this strategy was the culmination of motorway archaeological research, it represented only a small part of the research effectively undertaken.

# 26 Motorway exits for archaeology in Switzerland

Currently, the national motorway network is almost completed and the major highway sections have been now opened. However, since 2008, the maintenance of the motorway sections which was originally a cantonal responsibility has been taken over by the federal authorities<sup>9</sup>. As a consequence, new motorway archaeological research will certainly be organised on the last planned sections and during the future improvements of the highway network<sup>10</sup>. In this sense, the Federal Office of Roads created in 2012 its own specialised service for archaeology and palaeontology which collaborates with the different cantonal archaeological services to plan the current and future research operations during motorway constructions (FEDRO 2012: 20). The importance of this future research is, of course, unpredictable, but we can at present observe an almost total interruption in motorway archaeology in Switzerland.

After this interruption, it appears that the activities of preventive archaeology suddenly dropped in Switzerland. However, the substantial federal funded motorway archaeological research was developed in parallel with the organisation of the cantonal preventive archaeology which depended on cantonal credits. Moreover, the motorway research programmes took place in each canton at different periods between 1961 and the present, depending on the federal highways construction schedule. Thus, the interruption of the most important motorway archaeological programmes and the succeeding reorganisation of preventive archaeology have occurred at different times in each canton. However, the problem is that the cantonal volume of funding for preventive archaeology differs between the cantons, but is in all cases of lesser importance than the federal means which were deployed during the construction of the motorway network, thereby giving this impression of a decrease, which is in fact mainly the result of the reduction in the long term and exceptional federally funded research programme.

Another major current problem of preventive archaeology in Switzerland is its difficult implementation within the cantonal territory planning. Concerned with motorway constructions, Swiss archaeologists have missed the opportunity of participating in the definition of territory management at the federal level<sup>11</sup>. Thus, the organisation of territory planning in Switzerland is *de facto* not favourable to the integration of the requirements of preventive archaeology. Indeed, the procedures regarding territory planning in Switzerland are extremely rigid and slow. Even if it is very useful for heritage conservation, it disadvantages the implementation of dynamic preventive archaeology. The management of territory planning in Switzerland is a

<sup>9</sup> This change concerning the responsibility for motorway maintenance was operated in the framework of a major renegotiation of the administrative roles between the cantons and the federal authorities in 2008.

<sup>10</sup> Currently, motorway archaeological excavations are still being carried out, notably by the archaeological service of Canton of Bern during the construction of the last sections of the A5 motorway, close to the city of Biel (*Biell Bienne*).

<sup>11</sup> In Switzerland, cantonal territory planning is regulated by the 'Federal Law on Territory Planning' (1979 - RS 700) which came into effect in 1980.

cantonal responsibility, so that the implementation and the efficiency of archaeological preventive procedures within territory planning vary between cantons, depending on the cantonal research guidelines.

Common research standards and research coordination at the national level are non-existent for preventive archaeology. However, the Federal Office of Roads adopted a normalised procedure for federally funded preventive excavations linked to the completion and the maintenance of the national motorway network (FEDRO 2012: 20)12; also, a group of Swiss archaeologists created a forum concerning the situation of archaeology in Switzerland called "Horizon 2015", and proposed research standards which could be used for reference<sup>13</sup>; furthermore, the association of the directors responsible for the cantonal archaeological services<sup>14</sup> has adopted common guidelines for the training of volunteers during archaeological research<sup>15</sup>; we can also point out that Switzerland is a member of the European Archaeological Council, so that preventive archaeology in Switzerland is concerned by its guidelines. However, other than in the case of federally funded archaeological excavations, these standards are more in the nature of recommendations, and the cantonal managers have no obligations to follow them; thus each canton has its own procedures and standards for preventive archaeology. Moreover, there are no external supervisory measures to the canton regarding the excavations and for the application of preventive archaeology, except, again, in the case of federally funded operations<sup>16</sup>.

This situation is problematic: on the one hand, the lack of common standards and coordination for preventive archaeology in Switzerland generates a diversified and unbalanced collecting of data and research, disadvantaging the establishment of interpretative regional syntheses beyond the cantonal framework (Kaenel 2013: 41; Corboud 1998: 57); on the other hand, this situation is also problematic for preventive archaeology funding, since the heads of most of the cantonal archaeological services are at the same time curator and operator of the preventive archaeological operations. Therefore, because of the lack of external supervision and common standards which could be used as criteria, it is impossible to evaluate or justify the financial means required for the functioning of preventive archaeology, and the cantonal budgets for

<sup>12</sup> Applied procedures in case of archaeological and palaeontological discoveries during the construction of the National Roads (ASTRA 7A020 – 2012 V1.01).

<sup>13</sup> Horizont/Horizons/Orizzonte 2015 : Guidelines for field archaeological research.

<sup>14</sup> Konferenz Schweizerischer Kantonsarchäologinnen und Kantonsarchäologen / Conférence Suisse des Archéologues Cantonaux / Conferenza Svizzera degli Archeologi Cantonali (KSKA/CSAC).

<sup>15</sup> KSKA/CSAC's guidelines concerning volunteers, version: 10-2013.

<sup>16</sup> If an archaeological site is considered to be of national importance, financial funds for its preventive archaeological research can be requested by a cantonal archaeological service from the Federal Office of Culture, according to the Federal Law of Nature and Landscape Protection (1966 – RS 451).

preventive archaeology in Switzerland are therefore dangerously susceptible to be cut, depending on the cantonal economic situation.

Given this situation, we can observe a crisis in the archaeological labour market, resulting from a redefinition of the terms of employment in preventive archaeology (SSSP 2002). Motorway archaeological research programmes have created some sudden and temporary increases in labour requirements, which have generally been without long term consequences (Schifferdecker 1998: 26). The gradual completion of the most important motorway construction programmes has led to a substantial reduction in the labour requirements (Leesch, et al., 1998: 30)<sup>17</sup>. At present, the public employment market is saturated and permanent contracts are very rare. However, to fulfil their mission in Heritage management, the cantonal archaeological services have to engage numerous archaeologists on short-term contracts and to externalize a lot of analyses and data studies. Thus, numerous young Swiss archaeologists are only temporarily employed and are contracted as independent workers. The termination of motorway archaeology in Switzerland has brought about the demise of private archaeological companies. In fact, the current austerity measures blur the distinction between public and private employment.

Subsequent to the completion of the motorway research programme, important problems disadvantage the functioning of cantonal preventive archaeology in Switzerland, which are perceived differently in each canton, and which all need to be resolved at their own level. Thus, different strategies have been implemented, depending on cantonal specificities, giving rise to a diversity of organisations for current preventive archaeology in Switzerland.

# More than an organisation for archaeological research

During the development of preventive archaeology under motorway construction, during the recession which followed their interruption, as well as its organisation in the cantonal territory planning, preventive archaeology in Switzerland has been carried out in different ways depending on the cantonal politics and the timeframe.

Thus, the history of Swiss motorway archaeology demonstrates that preventive archaeology has a History! Preventive archaeology is, in fact, a continuously changing process composed of numerous mechanisms and diversified practices. Rather than an evolution, we observe a succession of research experiments which depend on both internal and external factors, as well as for example: the availability of financial and technical means, the theoretical and practical context of the research, the scientific

<sup>17</sup> For information, in 2002, it was estimated that 500 people were employed in archaeology (Niffeler 2002: 69).

thematic chosen, the number of archaeologists and their levels of competence, the situation of the archaeological institutions as well as the nature of the archaeological remains and how archaeologists perceived them... In reality, the organisation of preventive archaeology depended mainly on the initiatives and the ambitions of the archaeologists under whose responsibility they evolved. In fact, preventive archaeology is not a monolithic and definitive model for the research organisation; at the theoretical level, it is made up of research principles which are connected to Heritage and which can be practised in numerous ways.

Given this situation, to cope with the current crisis of preventive archaeology in Europe, it appears that it could be more judicious to follow new trends and solutions for the functioning of preventive archaeology, instead of looking for the establishment or the preservation of an idealized organisational model. However, our new choices and strategies have to be negotiated with civil society because of our obligations towards Heritage Management. To achieve this, we can look to change the legal and fundamental framework of archaeological heritage. In fact, the basic procedures, laws, norms and standards are also the connectors which link archaeological research with the political, economic and social spheres, which regulate research. This renegotiation will allow us to readjust the functioning of preventive archaeology to the current context of the research, to the evolution of the discipline and to our scientific ambitions.

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